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CLAIMS

[Claim(s)]

[Claim 1] Two or more flash photogenesis meanses to illuminate a photographic subject, and a criteria quantity of light ratio setting means to set up each criteria quantity of light ratio of these flashes photogenesis means, It has a means and responds to advance of the photography using flash photogenesis. a quantity of light ratio variation setting means to set up each quantity of light ratio variation, and counting of the number of times of photography — with the aforementioned criteria quantity of light ratio A quantity of light ratio operation means to calculate each amount of photogenesis of two or more flash photogenesis equipments which illuminate a photographic subject according to the aforementioned quantity of light ratio variation, Automatic quantity of light ratio bra ***** photography equipment characterized by having a photogenesis control means to control each amount of flash photogenesis of two or more flash photogenesis equipments based on the result of an operation of this quantity of light ratio operation means.

[Claim 2] In the automatic quantity of light ratio adjustable bracket photography equipment which performs automatic exposure bracket photography by controlling according to the photogenesis quantity of light ratio for every [which had the amount of photogenesis for each time of every to two or more flash equipments set up] flash equipment A setting means to set up the quantity of light ratio data of each time, and an operation means to calculate the amount of photogenesis to each flash equipment of each time based on the quantity of light ratio data set up with this setting means, the automatic quantity of light characterized by controlling the amount of photogenesis of each time of each flash equipment according to the amount data of photogenesis which prepared the means of communications which communicates the amount data of photogenesis calculated by this operation means to each flash equipment, and communicated in this means of communications — a ratio — adjustable bracket photography equipment

[Claim 3] It is the photography equipment according to claim 2 characterized by for the aforementioned means of communications consisting of the optical communication which performs optical communication between this flash equipment and each flash equipment, and communicating to each aforementioned flash equipment by the optical communication according a communication of the aforementioned amount data of photogenesis to photogenesis of this flash equipment while the aforementioned setting means and an operation means are prepared in the flash equipment connected to the camera and this camera.

[Translation done.]



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the automatic quantity of light ratio bra ***** photography equipment which takes a photograph by changing a quantity of light ratio automatically on the basis of the setting quantity of light ratio which serves as criteria in the amount of photogenesis of each stroboscope at the time of performing multi-LGT photogenesis photography which used two or more stroboscopes.

[0002]

[Description of the Prior Art] Photography using the stroboscope of the conventional plurality is performed widely in the photo studio, and the photogenesis quantitative ratio of the stroboscope to which the amount of photogenesis of each stroboscope illuminates main photographic subjects from transverse-plane right and left for example, in portrait photography was performing photography by a setup of the quantity of light of a stroboscope, or setup of the position of a stroboscope on the basis of the to some extent fundamental setup so that it might be called about 1:4.

[0003]

[Problem(s) to be Solved by the Invention] However, it sets to the actual photography by the aforementioned conventional technique. If each amount of photogenesis of two or more stroboscopes is set up Perform test photogenesis, and determine drawing according to the quantity of light of a stroboscope, and a development camera etc. performs test photography instantly. The result result was seen and there was a problem will take time before setting up a quantity of light ratio again or making photography preparations very difficultly [it is required to reset up the position of a stroboscope and] of especially common amateur.

[0004]

[Means for Solving the Problem] Two or more flash photogenesis meanses by which invention given [concerning this application / each] in a claim illuminates a photographic subject in a claim 1, A criteria quantity of light ratio setting means to set up each criteria quantity of light ratio of these flashes photogenesis means, It has a means and responds to advance of the photography using flash photogenesis. a quantity of light ratio variation setting means to set up each quantity of light ratio variation, and counting of the number of times of photography - with the aforementioned criteria quantity of light ratio A quantity of light ratio operation means to calculate each amount of photogenesis of two or more flash photogenesis equipments which illuminate a photographic subject according to the aforementioned quantity of light ratio variation, Have a photogenesis control means to control each amount of flash photogenesis of two or more flash photogenesis equipments based on the result of an operation of this quantity of light ratio operation means, and it sets to a claim 2. In the automatic quantity of light ratio adjustable bracket photography equipment which performs automatic exposure bracket photography by controlling according to the photogenesis quantity of light ratio for every [which had the amount of photogenesis for each time of every to two or more flash equipments set up] flash equipment A setting means to set up the quantity of light ratio data of each time, and an operation means to calculate the amount of photogenesis to each flash equipment of each time based on the quantity of light ratio data

set up with this setting means, Prepare the means of communications which communicates the amount data of photogenesis calculated by this operation means to each flash equipment, and are controlling the amount of photogenesis of each time of each flash equipment according to the amount data of photogenesis which communicated in this means of communications, and it sets to a claim 3. While the aforementioned setting means and an operation means are prepared in the flash equipment connected to the camera and this camera The aforementioned means of communications is consisting of the optical communication which performs optical communication between this flash equipment and each flash equipment, and communicating to each aforementioned flash equipment by the optical communication according a communication of the aforementioned amount data of photogenesis to photogenesis of this flash equipment.

[0005] By having each above-mentioned configuration, the artificial-illumination photograph of the optimum quantity of light ratio came to be easily acquired in the photography using artificial illumination, such as two or more stroboscopes, according to advance of the photography of predetermined number of sheets on the basis of the quantity of light ratio which serves as criteria in the quantity of light ratio of each artificial illumination by carrying out specified quantity change of the quantity of light ratio of each artificial illumination automatically.

[0006]

[Embodiments of the Invention] The reflective bamboo hat for flash photogenesis spools, such as Xe spool whose 2 drawing 1 is a drawing which expresses the characteristic feature of this invention best, 1 is the 1st flash photogenesis equipment and is a photogenesis means, and 3 irradiating efficiently the light which a photogenesis means generates at a photographic subject, and 15 are Fresnel lenses.

[0007] The microcomputer with which 4 controls the whole stroboscope equipment (the following, microcomputer), The photogenesis mode setting means of stroboscope equipment and 6 5 The selection means of a criteria quantity of light ratio and setting items, such as a quantity of light ratio variation The setting means of the amounts of setup, such as a criteria quantity of light ratio and a quantity of light ratio variation, and 8 7 A stroboscope mode-of-operation input means, As for the lightwave signal receiving means at the time of 9 using display meanses, such as liquid crystal, and 10 as a wireless slave stroboscope, and 11, lightwave signal photo detectors, such as photo diode, and 12 are the end-connection children with a non-illustrated camera. 13 is a motor control means, 14 is a motor, and the spacing of Fresnel lens 15, the reflective bamboo hat 3, and the flash photogenesis spool 2 is adjusted that it should consider as the illuminating angle corresponding to the focal distance of the taking lens with which the non-illustrated camera was equipped.

[0008] Other flash photogenesis equipments 102 and 103 are completely the same as the flash photogenesis equipment which gave [above-mentioned] explanation, and according to the status of the aforementioned mode-of-operation input means, it can set up as a sending set and a receiving set, the flash photogenesis equipment 1 linked to a camera is set as a send state, and it is used by having set up to the receiving status in the flash photogenesis equipments 102 and 103 which constitute the flash photogenesis equipment which actually irradiates a photographic subject from a spatially distant position.

[0009] In a send state, the flash photogenesis spool of 2 generates the optical pulse signal which controls the amount of photogenesis of each receiving set etc., and the receiving microcomputer 4 controls photogenesis of the flash photogenesis spool 2 through the photogenesis control means 16, and illuminates the optical pulse signal a photo detector 11 and the receiving means 10 indicate the amount of photogenesis which the flash photogenesis equipment of a send state transmits, the photogenesis status, etc. to be in the state of a reception with the quantity of light of a request of a photographic subject.

[0010] Drawing 2 is drawing showing this whole flash photogenesis equipment, and since the same fraction as drawing 1 attaches the same sign, an explanation is omitted.

[0011] Drawing 2 (a) is the front view of this flash photogenesis equipment, and drawing 2 (b) is rear view. In this drawing, it is a three step switch for a mode-of-operation setup of flash

photogenesis equipment, and the leftmost status serves as usual flash photogenesis equipment, and in the inner status, 8 of this drawing (b) will be in a send state, and will be in the receiving status in the state of the right.

[0012] Therefore, in the gestalt of this operation, the 3 steps of books switch in the flash photogenesis equipment 1 is used in the inner status, and it is used in the state of the right with the flash photogenesis equipments 102 and 103.

[0013] Drawing 3 shows an example of the display means 9, and constitutes it from the gestalt of this operation by liquid crystal. 21 is a display in the photogenesis mode of a non-illustrated camera, and 23 is a display of the focal distance of the lens with which the non-illustrated camera is equipped. 24 is a display of drawing of the lens with which the non-illustrated camera is equipped. 25 is a display flash photogenesis equipment indicates it to be that it is a transmitting mode, and it is the display which shows that 26 performs a quantity of light ratio control of the artificial-illumination equipment of A and B-2 LGT. 27 is the photography number-of-sheets display counter of automatic quantity of light ratio bra ***** and 28 is a display which shows the quantity of light ratio of the artificial-illumination equipment which should be controlled.

[0014] Drawing 3 (a) is a display which shows the 1st automatic quantity of light ratio bra ***** and in order to display that a photograph is taken by 1:1, by this photography, the mark of 1:1 blinks the quantity of light ratio display bar 28, at the same time 2:1 and 1:2 are displayed on the basis of 1:1 in the case of the criteria quantity of light ratio 1:1 and one step of width of face of a quantity of light ratio variation.

[0015] On the other hand, drawing 3 (b) shows that 2:1 of a quantity of light ratio display bar blinks since it is shown that a photograph is taken by 2:1 at the time of photography of the 2nd sheet, and 1:2 blinks simultaneously since it is shown that a photograph of photography of the 3rd sheet is taken by 1:2 in drawing 3 (c). In drawing 3 (d), the status that photography of a series of automatic quantity of light ratio bra ***** was completed is shown, and with the gestalt of this operation, if a photograph of three coma is taken, it will end. In addition, in a setup which performs automatic quantity of light ratio bra ***** continuously, it returns to drawing 3 (a), and it repeats automatic quantity of light ratio bra *****.

[0016] Next, drawing 4 is drawing showing the setting technique of automatic quantity of light ratio bra ***** and if the setup key 6 which is the selection mode setting means of the flash photogenesis equipment of drawings 1 and 2 in drawing 4 (a) is pushed and it is set as the established state of automatic quantity of light ratio bra ***** the ARB mark 27 of the display means 9 will blink it. Drawing 4 (b) shows the status that push + button once among + buttons which are next the amount setting meanses of setup of 7, and it is set as automatic light quantitative-ratio variation = 1 / two steps. Drawing 4 (c) shows similarly the status that push + button once further and it is set as automatic light quantitative-ratio variation = 1 step.

[0017] Where it pushes again the setup key 6 which is a selection mode setting means in drawing 4 (d) and automatic quantity of light ratio bra ***** is set up If it is set as a quantity of light ratio established state, the RATIO mark 26 blinks, + button is pushed among + and - buttons which are the amount setting means of setup of 7 the same with having mentioned above in this status, one step of set point of a quantity of light ratio itself is shifted from drawing 4 (c), and the status that the criteria quantity of light ratio was set to 2:1 is shown.

[0018] Next, flowing of this system is explained using the flow chart of drawing 5.

[0019] in addition, each following step — "S" — it omits

[0020] If the shutter button of a non-illustrated camera is pushed and photography is started, a camera directs photogenesis designation of a group A stroboscope through the connection contact 12 with a camera using well-known serial communication to the flash photogenesis equipment 1 set as the transmitting mode connected to the camera (S100).

[0021] The flash photogenesis equipment 1 carries out the pulse photogenesis of the flash photogenesis spool 2 to the 2nd flash equipment 102 set as A group in response to the

photogenesis designation from a camera, and transmits a pli photogenesis command (S101).

[0022] It receives with the photo detector 11 in the 2nd flash photogenesis equipment, and the receiving means 10 (un-illustrating), and the 2nd flash photogenesis equipment 102 which has set the pulse photogenesis from the flash photogenesis equipment 1 as A group receives predetermined pli photogenesis to a photographic subject, and measures the strength of the light in the reflective brightness (S102).

[0023] A camera receives pli photogenesis of the flash photogenesis equipment of A group irradiated by the photographic subject, and measures the strength of the light in the reflective brightness (S103).

[0024] Next, a camera performs photogenesis designation of a group B stroboscope to the flash photogenesis equipment 1 connected to the camera (S104).

[0025] The flash photogenesis equipment 1 carries out the pulse photogenesis of the flash photogenesis spool 2 of the flash photogenesis equipment 1 to the 3rd flash equipment 103 set as B group in response to the photogenesis designation from a camera, and transmits a pli photogenesis command (S105).

[0026] It receives with the photo detector 11 in the 3rd flash photogenesis equipment, and the receiving means 10 (un-illustrating), and the 3rd flash photogenesis equipment 103 which has set the pulse photogenesis from the flash photogenesis equipment 1 as B group performs predetermined pli photogenesis to a photographic subject (S106).

[0027] A camera receives pli photogenesis of the flash photogenesis equipment of B group irradiated by the photographic subject, and measures the strength of the light in the reflective brightness (S107).

[0028] Next, the flash photogenesis equipment 1 answers an inquiry of the A:B stroboscope quantity of light ratio from a camera, and transmits an A:B stroboscope quantity of light ratio. This quantity of light ratio information subtracts, adds and creates the quantity of light ratio and quantity of light ratio variation used as the above-mentioned criteria, whenever the flash photogenesis equipment 1 is photography (S108).

[0029] If the quantity of light ratio information from the flash photogenesis equipment 1 is received, a camera will progress to S110, in order to calculate the amount of these photogenesis of an A:B stroboscope (S109).

[0030] A camera calculates the amount of these photogenesis of a group A stroboscope and a group B stroboscope on the basis of the A:B stroboscope quantity of light ratio information received by the brightness of the photographic subject reflected light by the pli photogenesis which A group stroboscope which measured the strength of the light by S103 irradiates, the brightness of the photographic subject reflected light by the pli photogenesis which the group B stroboscope which measured the strength of the light by S107 irradiates, and S109 (S110).

[0031] A camera directs the amount of photogenesis of a group A stroboscope and a group B stroboscope calculated by S110, and photogenesis designation to the flash photogenesis equipment 1 (S111).

[0032] The flash photogenesis equipment 1 carries out the pulse photogenesis of the flash photogenesis spool 2 to each flash photogenesis equipment of A group and B group based on the amount of these photogenesis of the group A stroboscope received from the camera, and a group B stroboscope, and transmits this photogenesis command and each amount of photogenesis (S112).

[0033] The 2nd flash photogenesis equipment 102 receives this light-receiving command from the flash photogenesis equipment 1, and the amount of A group photogenesis with the photo detector 11 in the 2nd flash photogenesis equipment, and the receiving means 10, and performs this predetermined photogenesis to a photographic subject (S113).

[0034] The 3rd flash photogenesis equipment 103 receives this light-receiving command from the flash photogenesis equipment 1, and the amount of B group photogenesis with the photo detector 11 in the 3rd flash photogenesis equipment, and the receiving means 10, and performs this predetermined photogenesis to a photographic subject (S114).

[0035] In addition, when this photogenesis control to photography of each time performs three automatic exposure bracket photography, each amount of photogenesis in the flash equipment

in each group of each batch is calculated by S110. The amount information of photogenesis on each time is told to the flash equipment of each group. for every photogenesis of each time before making it control to become the amount of photogenesis according to the operation value and performing photography of each time, the amount of photogenesis to the time may be made to calculate by S110, and the result of an operation may be told to the flash equipment of each group, and you may perform the amount control of photogenesis of each time "

It was enabled to take easily a photograph of luminous intensity distribution different by performing automatically the operation explained above at every photography. Moreover, although the aforementioned explanation explained the flash photogenesis equipment of a transmitting side, and the flash photogenesis equipment of a receiving side that it should communicate by the lightwave signal which used flash photogenesis, it is also possible to communicate by photogenesis of high brightness Light Emitting Diode etc., and it cannot be overemphasized that you may connect not by wireless but by the signal line, either.

[0036] Furthermore, when it has two or more photogenesis sections in the flash photogenesis equipment of one, it can carry out similarly.

[0037] It sets in the gestalt of the above operation and the flash photogenesis equipment 102,103 is equivalent to two or more flash photogenesis meanses of the invention in this application. a microcomputer 4, the selections setting means 6, and the amount setting means 7 of setup A criteria quantity of light ratio setting means, (Correspondence of the gestalt of invention and operation) a quantity of light ratio variation setting means — corresponding — a microcomputer 4 — counting of the number of times of photography — it is equivalent to a means and a quantity of light ratio operation means, and the photogenesis control means 16 is equivalent to the photogenesis control means which each amount of flash photogenesis controls

[0038]

[Effect of the Invention] the criteria quantity of light ratio which was beforehand set up according to this invention as explained above, and the quantity of light — a ratio — it was made to change the quantity of light ratio on the basis of the adjustable amount automatically at every photography — the quantity of light — a ratio — it was enabled that it is possible to perform easily flash photography which carried out adjustable, and to become and to take the photograph of the optimum luminous intensity distribution easily

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Field

[The technical field to which invention belongs] this invention relates to the automatic quantity of light ratio bra ***** photography equipment which takes a photograph by changing a quantity of light ratio automatically on the basis of the setting quantity of light ratio which serves as criteria in the amount of photogenesis of each stroboscope at the time of performing multi-LGT photogenesis photography which used two or more stroboscopes.

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Effect

[Effect of the Invention] the criteria quantity of light ratio which was beforehand set up according to this invention as explained above, and the quantity of light — a ratio — it was made to change the quantity of light ratio on the basis of the adjustable amount automatically at every photography — the quantity of light — a ratio — it was enabled that it is possible to perform easily flash photography which carried out adjustable, and to become and to take the photograph of the optimum luminous intensity distribution easily

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, it sets to the actual photography by the aforementioned conventional technique. If each amount of photogenesis of two or more stroboscopes is set up. Perform test photogenesis, and determine drawing according to the quantity of light of a stroboscope, and a development camera etc. performs test photography instantly. The result result was seen and there was a problem will take time before setting up a quantity of light ratio again or making photography preparations very difficultly [it is required to reset up the position of a stroboscope and] of especially common amateur.

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MEANS

[Means for Solving the Problem] Two or more flash photogenesis meanses by which invention given [concerning this application / each] in a claim illuminates a photographic subject in a claim 1, A criteria quantity of light ratio setting means to set up each criteria quantity of light ratio of these flashes photogenesis means, It has a means and responds to advance of the photography using flash photogenesis. a quantity of light ratio variation setting means to set up each quantity of light ratio variation, and counting of the number of times of photography - with the aforementioned criteria quantity of light ratio A quantity of light ratio operation means to calculate each amount of photogenesis of two or more flash photogenesis equipments which illuminate a photographic subject according to the aforementioned quantity of light ratio variation, Have a photogenesis control means to control each amount of flash photogenesis of two or more flash photogenesis equipments based on the result of an operation of this quantity of light ratio operation means, and it sets to a claim 2. In the automatic quantity of light ratio adjustable bracket photography equipment which performs automatic exposure bracket photography by controlling according to the photogenesis quantity of light ratio for every [which had the amount of photogenesis for each time of every to two or more flash equipments set up] flash equipment A setting means to set up the quantity of light ratio data of each time, and an operation means to calculate the amount of photogenesis to each flash equipment of each time based on the quantity of light ratio data set up with this setting means, Prepare the means of communications which communicates the amount data of photogenesis calculated by this operation means to each flash equipment, and are controlling the amount of photogenesis of each time of each flash equipment according to the amount data of photogenesis which communicated in this means of communications, and it sets to a claim 3. While the aforementioned setting means and an operation means are prepared in the flash equipment connected to the camera and this camera The aforementioned means of communications is consisting of the optical communication which performs optical communication between this flash equipment and each flash equipment, and communicating to each aforementioned flash equipment by the optical communication according a communication of the aforementioned amount data of photogenesis to photogenesis of this flash equipment.

[0005] By having each above-mentioned configuration, the artificial-illumination photograph of the optimum quantity of light ratio came to be easily acquired in the photography using artificial illumination, such as two or more stroboscopes, according to advance of the photography of predetermined number of sheets on the basis of the quantity of light ratio which serves as criteria in the quantity of light ratio of each artificial illumination by carrying out specified quantity change of the quantity of light ratio of each artificial illumination automatically.

[0006]

[Embodiments of the Invention] The reflective bamboo hat for flash photogenesis spools, such as Xe spool whose 2 drawing 1 is a drawing which expresses the characteristic feature of this invention best, 1 is the 1st flash photogenesis equipment and is a photogenesis means, and 3 irradiating efficiently the light which a photogenesis means generates at a photographic subject, and 15 are Fresnel lenses.

[0007] The microcomputer with which 4 controls the whole stroboscope equipment (the following, microcomputer). The photogenesis mode setting means of stroboscope equipment and 6 5 The selection means of a criteria quantity of light ratio and setting items, such as a quantity of light ratio variation The setting means of the amounts of setup, such as a criteria quantity of light ratio and a quantity of light ratio variation, and 8 7 A stroboscope mode-of-operation input means, As for the lightwave signal receiving means at the time of 9 using display meanses, such as liquid crystal, and 10 as a wireless slave stroboscope, and 11, lightwave signal photo detectors, such as photo diode, and 12 are the end-connection children with a non-illustrated camera. 13 is a motor control means, 14 is a motor, and the spacing of Fresnel lens 15, the reflective bamboo hat 3, and the flash photogenesis spool 2 is adjusted that it should consider as the illuminating angle corresponding to the focal distance of the taking lens with which the non-illustrated camera was equipped.

[0008] Other flash photogenesis equipments 102 and 103 are completely the same as the flash photogenesis equipment which gave [above-mentioned] explanation, and according to the status of the aforementioned mode-of-operation input means, it can set up as a sending set and a receiving set, the flash photogenesis equipment 1 linked to a camera is set as a send state, and it is used by having set up to the receiving status in the flash photogenesis equipments 102 and 103 which constitute the flash photogenesis equipment which actually irradiates a photographic subject from a spatially distant position.

[0009] In a send state, the flash photogenesis spool of 2 generates the optical pulse signal which controls the amount of photogenesis of each receiving set etc., and the receiving microcomputer 4 controls photogenesis of the flash photogenesis spool 2 through the photogenesis control means 16, and illuminates the optical pulse signal a photo detector 11 and the receiving means 10 indicate the amount of photogenesis which the flash photogenesis equipment of a send state transmits, the photogenesis status, etc. to be in the state of a reception with the quantity of light of a request of a photographic subject.

[0010] Drawing 2 is drawing showing this whole flash photogenesis equipment, and since the same fraction as drawing 1 attaches the same sign, an explanation is omitted.

[0011] Drawing 2 (a) is the front view of this flash photogenesis equipment, and drawing 2 (b) is rear view. In this drawing, it is a three step switch for a mode-of-operation setup of flash photogenesis equipment, and the leftmost status serves as usual flash photogenesis equipment, and in the inner status, 8 of this drawing (b) will be in a send state, and will be in the receiving status in the state of the right.

[0012] Therefore, in the gestalt of this operation, the 3 steps of books switch in the flash photogenesis equipment 1 is used in the inner status, and it is used in the state of the right with the flash photogenesis equipments 102 and 103.

[0013] Drawing 3 shows an example of the display means 9, and constitutes it from the gestalt of this operation by liquid crystal. 21 is a display in the photogenesis mode of a non-illustrated camera, and 23 is a display of the focal distance of the lens with which the non-illustrated camera is equipped. 24 is a display of drawing of the lens with which the non-illustrated camera is equipped. 25 is a display flash photogenesis equipment indicates it to be that it is a transmitting mode, and it is the display which shows that 26 performs a quantity of light ratio control of the artificial-illumination equipment of A and B-2 LGT. 27 is the photography number-of-sheets display counter of automatic quantity of light ratio bra ***** and 28 is a display which shows the quantity of light ratio of the artificial-illumination equipment which should be controlled.

[0014] Drawing 3 (a) is a display which shows the 1st automatic quantity of light ratio bra ***** and in order to display that a photograph is taken by 1:1, by this photography, the mark of 1:1 blinks the quantity of light ratio display bar 28, at the same time 2:1 and 1:2 are displayed on the basis of 1:1 in the case of the criteria quantity of light ratio 1:1 and one step of width of face of a quantity of light ratio variation.

[0015] On the other hand, drawing 3 (b) shows that 2:1 of a quantity of light ratio display bar blinks since it is shown that a photograph is taken by 2:1 at the time of photography of the 2nd sheet, and 1:2 blinks simultaneously since it is shown that a photograph of photography of

the 3rd sheet is taken by 1:2 in drawing 3 (c). In drawing 3 (d), the status that photography of a series of automatic quantity of light ratio bra ***** was completed is shown, and with the gestalt of this operation, if a photograph of three coma is taken, it will end. In addition, in a setup which performs automatic quantity of light ratio bra ***** continuously, it returns to drawing 3 (a), and it repeats automatic quantity of light ratio bra *****.

[0016] Next, drawing 4 is drawing showing the setting technique of automatic quantity of light ratio bra ***** and if the setup key 6 which is the selection mode setting means of the flash photogenesis equipment of drawings 1 and 2 in drawing 4 (a) is pushed and it is set as the established state of automatic quantity of light ratio bra ***** the ARB mark 27 of the display means 9 will blink it. Drawing 4 (b) shows the status that push + button once among +-buttons which are next the amount setting meanses of setup of 7, and it is set as automatic light quantitative-ratio variation = 1 / two steps. Drawing 4 (c) shows similarly the status that push + button once further and it is set as automatic light quantitative-ratio variation = 1 step.

[0017] Where it pushes again the setup key 6 which is a selection mode setting means in drawing 4 (d) and automatic quantity of light ratio bra ***** is set up If it is set as a quantity of light ratio established state, the RATIO mark 26 blinks, + button is pushed among + and - buttons which are the amount setting means of setup of 7 the same with having mentioned above in this status, one step of set point of a quantity of light ratio itself is shifted from drawing 4 (c), and the status that the criteria quantity of light ratio was set to 2:1 is shown.

[0018] Next, flowing of this system is explained using the flow chart of drawing 5.

[0019] in addition, each following step — "S" — it omits

[0020] If the shutter button of a non-illustrated camera is pushed and photography is started, a camera directs photogenesis designation of a group A stroboscope through the connection contact 12 with a camera using well-known serial communication to the flash photogenesis equipment 1 set as the transmitting mode connected to the camera (S100).

[0021] The flash photogenesis equipment 1 carries out the pulse photogenesis of the flash photogenesis spool 2 to the 2nd flash equipment 102 set as A group in response to the photogenesis designation from a camera, and transmits a pli photogenesis command (S101).

[0022] It receives with the photo detector 11 in the 2nd flash photogenesis equipment 102 which the receiving means 10 (un-illustrating), and the 2nd flash photogenesis equipment 102 which has set the pulse photogenesis from the flash photogenesis equipment 1 as A group receives predetermined pli photogenesis to a photographic subject, and measures the strength of the light in the reflective brightness (S102).

[0023] A camera receives pli photogenesis of the flash photogenesis equipment of A group irradiated by the photographic subject, and measures the strength of the light in the reflective brightness (S103).

[0024] Next, a camera performs photogenesis designation of a group B stroboscope to the flash photogenesis equipment 1 connected to the camera (S104).

[0025] The flash photogenesis equipment 1 carries out the pulse photogenesis of the flash photogenesis spool 2 of the flash photogenesis equipment 1 to the 3rd flash equipment 103 set as B group in response to the photogenesis designation from a camera, and transmits a pli photogenesis command (S105).

[0026] It receives with the photo detector 11 in the 3rd flash photogenesis equipment, and the receiving means 10 (un-illustrating), and the 3rd flash photogenesis equipment 103 which has set the pulse photogenesis from the flash photogenesis equipment 1 as B group performs predetermined pli photogenesis to a photographic subject (S106).

[0027] A camera receives pli photogenesis of the flash photogenesis equipment of B group irradiated by the photographic subject, and measures the strength of the light in the reflective brightness (S107).

[0028] Next, the flash photogenesis equipment 1 answers an inquiry of the A:B stroboscope quantity of light ratio from a camera, and transmits an A:B stroboscope quantity of light ratio.

This quantity of light ratio information subtracts, adds and creates the quantity of light ratio and quantity of light ratio variation used as the above-mentioned criteria, whenever the flash photogenesis equipment 1 is photography (S108).

[0029] If the quantity of light ratio information from the flash photogenesis equipment 1 is received, a camera will progress to S110, in order to calculate the amount of these photogenesis of an A:B stroboscope (S109).

[0030] A camera calculates the amount of these photogenesis of a group A stroboscope and a group B stroboscope on the basis of the A:B stroboscope quantity of light ratio information received by the brightness of the photographic subject reflected light by the pli photogenesis which A group stroboscope which measured the strength of the light by S103 irradiates, the brightness of the photographic subject reflected light by the pli photogenesis which the group B stroboscope which measured the strength of the light by S107 irradiates, and S109 (S110).

[0031] A camera directs the amount of photogenesis of a group A stroboscope and a group B stroboscope calculated by S110, and photogenesis designation to the flash photogenesis equipment 1 (S111).

[0032] The flash photogenesis equipment 1 carries out the pulse photogenesis of the flash photogenesis spool 2 to each flash photogenesis equipment of A group and B group based on the amount of these photogenesis of the group A stroboscope received from the camera, and a group B stroboscope, and transmits this photogenesis command and each amount of photogenesis (S112).

[0033] The 2nd flash photogenesis equipment 102 receives this light-receiving command from the flash photogenesis equipment 1, and the amount of A group photogenesis with the photo detector 11 in the 2nd flash photogenesis equipment, and the receiving means 10, and performs this predetermined photogenesis to a photographic subject (S113).

[0034] The 3rd flash photogenesis equipment 103 receives this light-receiving command from the flash photogenesis equipment 1, and the amount of B group photogenesis with the photo detector 11 in the 3rd flash photogenesis equipment, and the receiving means 10, and performs this predetermined photogenesis to a photographic subject (S114).

[0035] In addition, when this photogenesis control to photography of each time performs three automatic exposure bracket photography, each amount of photogenesis in the flash equipment in each group of each batch is calculated by S110. The amount information of photogenesis on each time is told to the flash equipment of each group. for every photogenesis of each time before making it control to become the amount of photogenesis according to the operation value and performing photography of each time, the amount of photogenesis to the time may be made to calculate by S110, and the result of an operation may be told to the flash equipment of each group, and you may perform the amount control of photogenesis of each time "

It was enabled to take easily a photograph of luminous intensity distribution different by performing automatically the operation explained above at every photography. Moreover, although the aforementioned explanation explained the flash photogenesis equipment of a transmitting side, and the flash photogenesis equipment of a receiving side that it should communicate by the lightwave signal which used flash photogenesis, it is also possible to communicate by photogenesis of high brightness Light Emitting Diode etc., and it cannot be overemphasized that you may connect not by wireless but by the signal line, either.

[0036] Furthermore, when it has two or more photogenesis sections in the flash photogenesis equipment of one, it can carry out similarly.

[0037] It sets in the gestalt of the above operation and the flash photogenesis equipment 102,103 is equivalent to two or more flash photogenesis meanses of the invention in this application. a microcomputer 4, the selections setting means 6, and the amount setting means 7 of setup A criteria quantity of light ratio setting means, (Correspondence of the gestalt of invention and operation) a quantity of light ratio variation setting means — corresponding — a microcomputer 4 — counting of the number of times of photography — it is equivalent to a means and a quantity of light ratio operation means, and the photogenesis control means 16 is equivalent to the photogenesis control means which each amount of flash photogenesis

controls

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the multi-LGT photography structure of a system of this invention.

[Drawing 2] It is the external view of the gestalt of 1 operation of this invention.

[Drawing 3] It is drawing showing the change status of the quantity of light ratio of this invention.

[Drawing 4] It is drawing showing the established state of the quantity of light ratio variation of this invention.

[Drawing 5] It is a flow chart explaining an operation of the camera stroboscope system in the gestalt of operation of this invention.

[Description of Notations]

- 1,102,103 Flash photogenesis equipment
- 2 Flash Photogenesis Spool
- 3 Reflective Bamboo Hat
- 4 Microcomputer
- 5 Photogenesis Mode Setting Means
- 6 Setting Item Selection Means
- 7 Setting Means of the Amount of Setup
- 8 Stroboscope Mode-of-Operation Input Means
- 9 Display Means
- 10 Receiving Means
- 11 Lightwave Signal Photo Detector
- 12 End-Connection Child
- 13 Motor Control Means
- 14 Motor
- 15 Fresnel Lens
- 16 Photogenesis Control Means

[Translation done.]

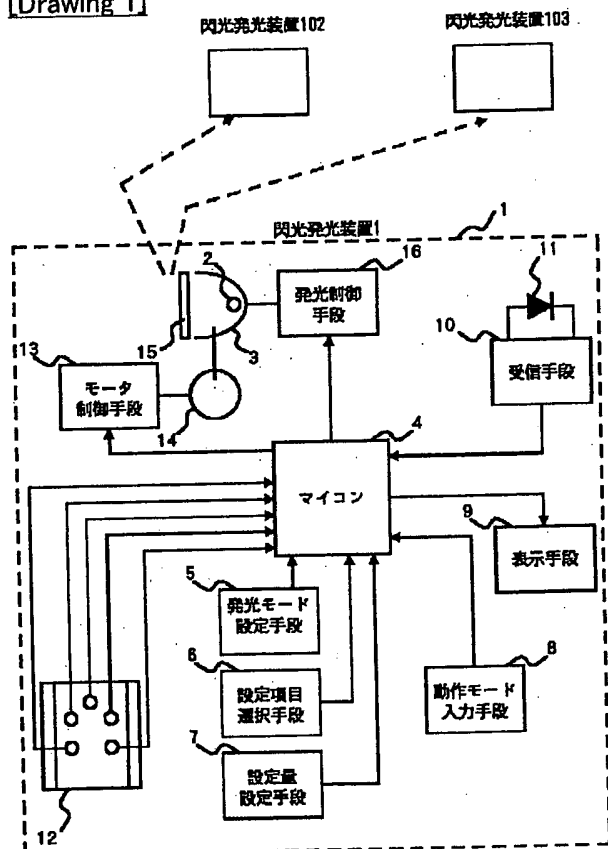
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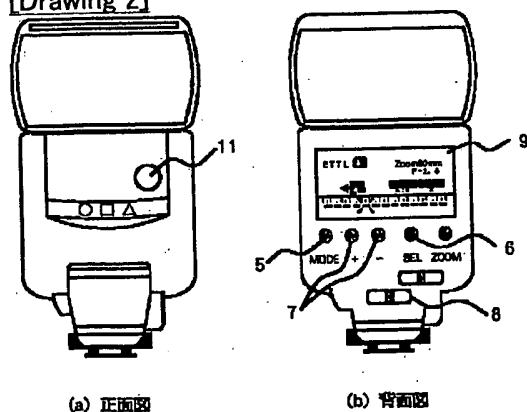
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DRAWINGS

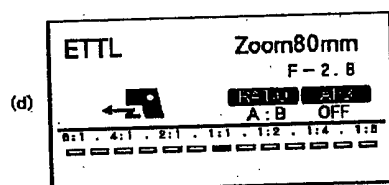
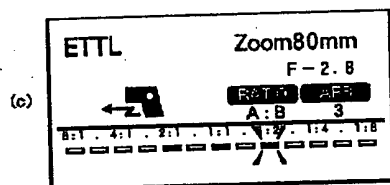
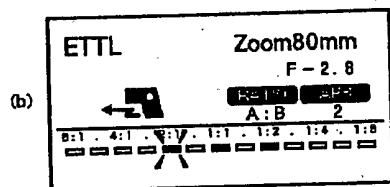
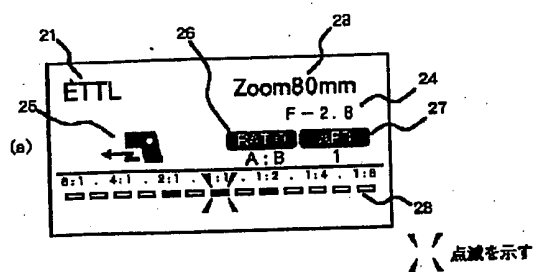
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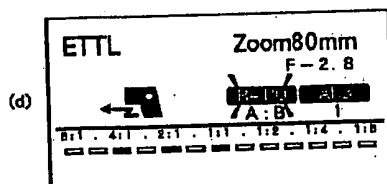
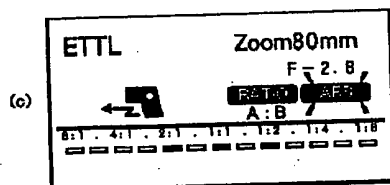
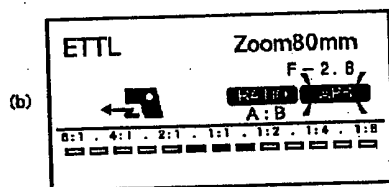
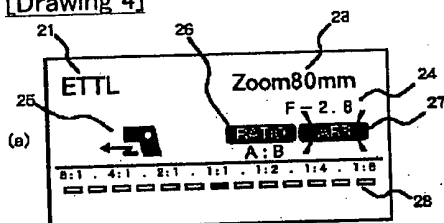
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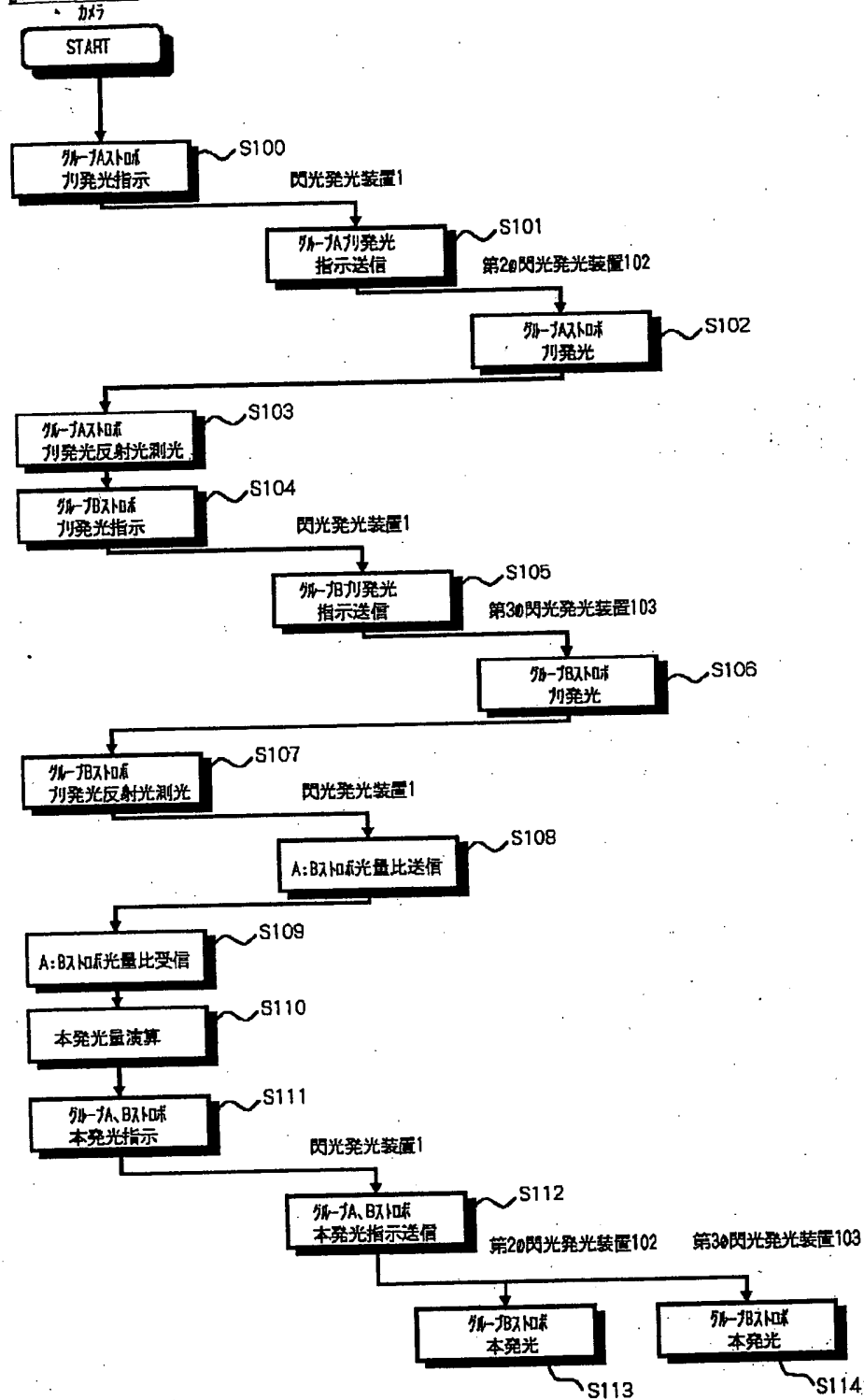
[Drawing 3]



[Drawing 4]



[Drawing 5]



[Translation done.]

